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| 09/100,569 | 06/19/1998 | MICHAEL E BURKE | CASE-2-1-3-2 | 8701 |

7590 01/09/2004

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| EXAMINER |
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LIU, SHUWANG

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| ART UNIT | PAPER NUMBER |
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2634

DATE MAILED: 01/09/2004

23

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/100,569

Applicant(s)

BURKE ET AL.

Examiner

Shuwang Liu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- ☐ Interview Summary (PTO-413) Paper No(s). _____.
- ☐ Notice of Informal Patent Application (PTO-452)
- ☐ Other: _____.

Response to Arguments

1. Applicant's arguments with respect to claims 1 and 11 have been considered but are moot in view of the new ground(s) of rejection because of the amendment.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-17 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The specification does not describe "a wireless communication system having a mobile unit and a base station receiver directing the transmitted power level of the mobile unit" and adjusting the "power level of the desensitization signal so that the transmitted power level of the mobile unit is sufficiently high at a handoff boundary to overcome potential interference." The specification and drawings only describe a **receiver** desensitization system. However, the specification does not describe the receiver controls the transmitted power level of the mobile unit. Although the specification describes "it is necessary to desensitize the microcell so that the transmitted power level of the mobile unit at the handoff boundary is sufficiently high to

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both the microcell as well as to the macrocell, thereby achieving an appropriate sensitivity balance between the different base stations" in the background section of the specification. However, this description is only an intended purpose. The description does not teach how the transmitted power level of the mobile unit at the handoff boundary is sufficiently high to overcome the potential interference by adjusting the power level of the desensitization signal.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear what power level of the mobile station is considered as **sufficiently** high, 30db, 50db or 100db, to overcome the **potential** interference.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. Claims 1-3, 5, 7-12 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Soliman (US 5,675,581) in view of Weaver, Jr. et al. (US 5,475,870, see paper #7).

As shown in figures 5-7 and 9, Soliman discloses a wireless system, a method of receiving a received signal (by 120) on a received path of a receiver, the method comprising:

(1) regarding claim 1:

injecting a desensitization signal (outputted from 114) into said receive path (120 and 116) to raise the noise level of said receive path relative to the level of said received signal without attenuating the received signal on the receive path so as to desensitize the receiver (column 13, line 52-column 14, line 29); and

adjusting the power level (controlled by 130) of the desensitization signal based on the operating parameters of the wireless communication system (column 14, lines 14-29).

Soliman discloses all of the subject matter as described above except for specifically teaching that the adjusting the power level of the desensitization signal results in that the transmitted power level of the mobile unit is sufficiently high at a handoff boundary to overcome potential interference

Weaver, Jr. et al. teaches adjusting the power level of the desensitization signal based on the operating parameters of the wireless communication system so that the transmitted power level of the mobile unit is sufficiently high at a handoff boundary to overcome potential interference (column 10, line 32-column 14, line 17).

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One skilled in the art would have clearly recognized that a power adjustment command is generated by each base station and sent to the mobile unit on the forward link. In response to the base station power adjustment commands, the mobile unit increases or decreases the mobile unit transmit power by a predetermined amount (column 3, lines 37-48). It is desirable to balance the reverse link handoff boundary to the forward link handoff boundary, or vice versa, in order to maximize system capacity (column 8, lines 39-42). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to understanding the purpose of the adjusting the power of the desensitization signal as taught by Weaver, Jr. et al. in the Soliman's system so as to maximize system capacity and reduce the interference.

(2) regarding claim 3:

providing a noise source (126) as said desensitization.

(3) regarding claim 10:

coupling (adder 116) said desensitization signal onto said receiver path.

(4) regarding claim 11:

a desensitization signal source (114) that is capable of producing a desensitization signal (output from 114) on a desensitization signal path;

a coupler (adder 116) connected to said desensitization signal path and said receive path and injects said desensitization signal (output from 114) into said receive path (120 and 116) to raise the noise level of said receive path relative to the level of said received signal without attenuating the received signal on the receive path so as to desensitize the receiver (column 13, line 52-column 14, line 29); and

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means (130) for adjusting the power level of the desensitization signal based on the operating parameters of the wireless communication system (column 14, lines 14-29).

Soliman discloses all of the subject matter as described above except for specifically teaching that the adjusting the power level of the desensitization signal results in that the transmitted power level of the mobile unit is sufficiently high at a handoff boundary to overcome potential interference

Weaver, Jr. et al. teaches adjusting the power level of the desensitization signal based on the operating parameters of the wireless communication system so that the transmitted power level of the mobile unit is sufficiently high at a handoff boundary to overcome potential interference (column 10, line 32-column 14, line 17).

One skilled in the art would have clearly recognized that a power adjustment command is generated by each base station and sent to the mobile unit on the forward link. In response to the base station power adjustment commands, the mobile unit increases or decreases the mobile unit transmit power by a predetermined amount (column 3, lines 37-48). It is desirable to balance the reverse link handoff boundary to the forward link handoff boundary, or vice versa, in order to maximize system capacity (column 8, lines 39-42). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to understanding the purpose of the adjusting the power of the desensitization signal as taught by Weaver, Jr. et al. in the Soliman's system so as to maximize system capacity and reduce the interference.

(5) regarding claim 12:

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said desensitization signal source comprises a noise source (126) as said desensitization.

(6) regarding claims 9 and 15:

attenuating (130) the desensitization signal prior to the step of injecting (column 14, lines 16-20).

(7) regarding claims 2 and 16:

amplifying (728 in figure 9) said signal on said receive path with an amplifier (RF AMP in 728); and

wherein said step of injecting further includes:

injecting said desensitization signal into said receive path after said amplifier (see figure 9) (column 19, lines 49-60).

(8) regarding claims 5, 7 and 14:

modulating (mixing) (430 in figure 7) a continuous wave signal (r_{eq}) using a modulating signal source (X_{eq}) to produce a modulated desensitization signal as the desensitization signal.

(9) regarding claim 8:

providing the continuous wave signal (r_{eq} in figure 7) to the adjustable attenuator (430, 600, 650, 455 and 300 in figure 7);

providing a modulating signal source (X_{eq}) to the adjustable attenuator (430, 600, 650, 455 and 300 in figure 7); and

attenuating by the adjustable attenuator (430, 600, 650, 455 and 300 in figure 7 and 280 in figure 6) said continuous wave signal using said modulating signal to produce the modulated desensitization signal (output from 280).

8. Claims 4 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Soliman (US 5,675,581) and Weaver, Jr. et al. as applied to claims 1 and 11 above, and further in view of Hall et al. (US 5,519,888, in paper #3).

Soliman and Weaver, Jr. et al. disclose all of the subject matter as described above except for specifically including a continuous wave signal source producing a continuous wave signal on the desensitization path.

Hall et al. teaches a receiver comprising a continuous wave signal source (16 in figure 4) producing a continuous wave signal on the desensitization path.

One skilled in the art would have clearly recognized that to use different noise sources is merely a matter of design choice. For example, it may reduce cost to use a continuous wave signal on the desensitization path. As shown in figure 4, Hall et al. teaches the noise source is a continuous wave signal (16). Hall et al. also teach another embodiment (figure 9) in which the noise source is a pseudo-noise sequence. The limitations in claims do not define a patentably distinct invention over that in the receiver of Jin et al. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to replace the noise source of Soliman and Weaver, Jr. et al. by a continuous wave signal on the desensitization path as taught by Hall et al. so as to provide a common noise source and reduce cost in communication system.

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Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shuwang Liu whose telephone number is (703) 308-9556.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin, can be reached at (703) 305-4714.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

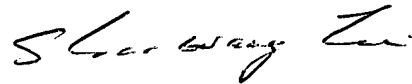
or faxed to:

(703) 872-9306 (for Technology Center 2600 only)

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Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.



Shuwang Liu
Primary Examiner
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December 30, 2003